

## CLAIMS:

1. A method for detecting a moving object of interest, having a characteristic with a predetermined value, in a field of view of a motion video camera using a video signal received from the motion video camera, said method comprising the steps of:

receiving an object qualifying parameter representative of the characteristic with the predetermined value of the moving object of interest;

detecting moving objects to determine the value of the characteristic of the moving object of interest for each detected moving object;

determining if a value of the characteristic for each detected moving object is within a predefined tolerance of the predetermined value of the moving object of interest; and

generating an indication of detected moving objects having the value of the characteristic within the predefined tolerance.

2. The method of claim 1 further including the step of receiving an indication of a selected monitoring area in said field of view and wherein said step of detecting is performed in said monitoring area.

3. The method of claim 1 wherein said object detection parameter is selected from the group consisting of color, velocity, position, acceleration, and size.

4. A method for reducing information in a video signal having a plurality of frames received from a motion video camera with a field of view, wherein each of said frames has a data set, said method comprising:

detecting moving objects in the field of view of the motion video camera;

selecting objects of interest from said detected moving objects; and

creating a data set for each frame of the plurality of frames in the video signal based on detected moving objects.

5. The method of claim 4 further including the steps of:

receiving an object qualifying parameter representative of a characteristic of a predetermined value of a moving object of interest;

- determining the value of the characteristic of the moving object of interest for each  
5 object of interest;
- determining if a value of the characteristic for each detected moving object is within a predefined tolerance of the predetermined value of the moving object of interest; and  
wherein the step of selecting includes the step of automatically selecting detected moving objects having the value of the characteristic within the predefined tolerance.
6. The method of claim 4 wherein the step of selecting object definitions includes receiving an indication of at least one selected object of interest.
7. The method of claim 4 wherein the step of creating said data set includes the steps of:  
determining if a current frame of the plurality of frames contains at least one selected object of interest;  
if said current frame contains at least one selected object of interest, generating a data  
5 representation of said at least one selected object of interest and associating said data representation with said data set of said current frame; and  
if said current frame does not contain at least one selected object of interest, marking said data set for said current frame as empty.
8. The method of claim 4 wherein said object detection parameter is selected from the group consisting of color, velocity, position, acceleration and size.
9. The method of claim 4 further including the step of receiving an indication of a selected monitoring area in said field of view; and wherein said step of detecting is performed in said monitoring area.
10. The method of claim 4 wherein the step of creating a data set includes the steps of:  
determining a present position and velocity of each selected object of interest; and  
predicting a future position of each selected object of interest based on said present position and velocity.
11. A computer readable medium having stored thereon computer-executable instructions for detecting a moving object of interest, having a characteristic with a predetermined value,

in a field of view of a motion video camera using a video signal received from the motion video camera performing the steps of:

- 5 receiving an object qualifying parameter representative of the characteristic with the predetermined value of the moving object of interest;
- detecting moving objects to determine the value of the characteristic of the moving object of interest for each detected moving object;
- determining if a value of the characteristic for each detected moving object is within a
- 10 predefined tolerance of the predetermined value of the moving object of interest; and
- generating an indication of detected moving objects having the value of the characteristic within the predefined tolerance.

12. The computer readable medium of claim 11 further including the step of receiving an indication of a selected monitoring area in said field of view and wherein said step of detecting is performed in said monitoring area.

13. The computer readable medium of claim 11 wherein said object detection parameter is selected from the group consisting of color, velocity, position, acceleration, and size.

14. A computer readable medium having stored thereon computer-executable instructions for reducing information in a video signal having a plurality of frames received from a motion video camera with a field of view, wherein each of said frames has a data set, performing the steps of

- 5 detecting moving objects in the field of view of the motion video camera;
- selecting objects of interest from said detected moving objects; and
- creating a data set for each frame of the plurality of frames in the video signal based on detected moving objects.

15. The computer readable medium of claim 14 further including the steps of:

- receiving an object qualifying parameter representative of a characteristic of a predetermined value of a moving object of interest, wherein detected moving objects have the characteristic of the moving object of interest;
- 5 determining if a value of the characteristic for each detected moving object is within a predefined tolerance of the predetermined value of the moving object of interest; and

wherein the step of selecting includes the step of automatically selecting detected moving objects having the value of the characteristic within the predefined tolerance.

16. The computer readable medium of claim 14 wherein the step of selecting object definitions includes receiving an indication of at least one selected object of interest.

17. The computer readable medium of claim 14 wherein the step of creating said data set includes the steps of:

determining if a current frame of the plurality of frames contains at least one selected object of interest;

5 if said current frame contains at least one selected object of interest, generating a data representation of said at least one selected object of interest and associating said data representation with said data set of said current frame; and

if said current frame does not contain at least one selected object of interest, marking said data set for said current frame as empty.

18. The computer readable medium of claim 14 wherein said object detection parameter is selected from the group consisting of color, velocity, position, acceleration and size.

19. The computer readable medium of claim 14 further including the step of receiving an indication of a selected monitoring area in said field of view; and wherein said step of detecting is performed in said monitoring area.

20. The computer readable medium of claim 14 wherein the step of creating a data set includes the steps of:

determining a present position and velocity of each selected object of interest; and

5 predicting a future position of each selected object of interest based on said present position and velocity.

21. A system for detecting a moving object of interest, having a characteristic with a predetermined value, using a video signal received from a motion video camera representing a field of view of the motion video camera, said system comprising:

object detection means for detecting moving objects to determine the value of the  
5 characteristic of the moving object of interest for each detected moving object; and  
a comparator for generating an indication of detected moving objects having the value  
of the characteristic within a predefined tolerance of the predetermined value of the moving  
object of interest.

22. The system of claim 21 wherein said object detection means includes means for  
receiving an indication of a selected monitoring area in said selected monitoring area in said  
field of view in which object detection is to be performed.

23. A system for reducing information in a video signal having a plurality of frames  
received from a motion video camera having a field of view, wherein each of said frames has  
a data set, said system comprising:

5 object detection means for detecting moving objects in the field of view of the motion  
video camera;  
a selector for determining objects of interest from said detected moving objects; and  
means for creating a data set for each frame of the plurality of frames in the video  
signal based on detected moving objects.

24. The system of claim 23 further including:

a comparator for receiving an object qualifying parameter representative of a  
characteristic of a predetermined value of a moving object of interest and generating an  
indication of detected moving objects having the value of the characteristic within a  
5 predefined tolerance of the predetermined value of the moving object of interest.  
wherein said selector includes means for automatically selecting detected moving objects  
indicated by output of said comparator.

25. The system of claim 23 wherein said object detection means includes means for  
receiving an indication of a selected monitoring area in said field of view in which object  
detection is to be performed.

26. The system of claim 23 wherein said means for creating further includes:  
a path detector for predicting a future position of each selected moving object based on determined present position and velocity.

FOR OFFICIAL USE ONLY